

**STANDARD SPECIFICATIONS  
For  
ROAD AND BRIDGE  
CONSTRUCTION**

**1995 Edition**

**Adopted by**

**The  
Montana Department Of Transportation  
and the  
Montana Transportation Commission**

**Number \_\_\_\_\_**



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For copies of the 1995 Standard Specifications for Road and Bridge  
Construction write:

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## **SECTION 101 DEFINITIONS AND TERMS**

**101.01 GENERAL.** The Standard Specifications are written to the Contractor. They define the Contractor's responsibility in meeting each specification. The short sentences, written in the active voice, explain what the Contractor must do. The Specifications outline the expectations of the Department, and explain what the Contractor shall provide the Department. Unless otherwise noted, all actions are to be performed by the Contractor. "Will" statements mean the Department or Engineer is responsible or will perform the action.

The active voice writing style is recommended by the Federal Highway Administration Technical Advisory 5080.16. Examples of the writing styles are as follows:

**Passive Voice:** The Contractor shall construct the temporary detour as specified in the Contract.

**Active Voice:** Construct the temporary detour as specified in the Contract.

The titles and headings of the sections, subsections, and sub-parts are for the convenience of reference and do not necessarily have a bearing on their interpretation.

When a publication is specified, it refers to the most recent date of issue, including interim publications, before the date of bid receipts for the project unless the issue of a specific date or year is specified.

Whenever the following abbreviations and terms are used in the Contract, the intent and meaning is interpreted as follows:

### **101.02 ABBREVIATIONS.**

AA - Aluminum Association  
AAN - American Association of Nurserymen  
AAR - Association of American Railroads  
AASHTO - American Association of State Highway and Transportation Officials  
ACI - American Concrete Institute  
AGC - Associated General Contractors of America  
AIA - American Institute of Architects  
AISC - American Institute of Steel Construction, Inc.  
AISI - American Iron and Steel Institute  
ANSI - American National Standards Institute, Inc.  
ARA - American Railway Association  
AREA - American Railway Engineering Association  
ARTBA - American Road and Transportation Builders Association  
ASCE - American Society of Civil Engineers  
ASLA - American Society of Landscape Architects  
ASME - American Society of Mechanical Engineers  
ASTM - American Society for Testing and Materials  
AWPA - American Wood Preservers Association  
AWS - American Welding Society  
AWWA - American Water Works Association  
FHWA - Federal Highway Administration  
FSS - Federal Specifications and Standards

GSA - General Services Administration  
IES - Illuminating Engineering Society  
IMSA - International Municipal Signal Association  
ITE - Institute of Transportation Engineers  
MCA - Montana Code Annotated  
MDT - Montana Department of Transportation  
MIL - Military Specifications  
MUTCD - Manual on Uniform Traffic Control Devices  
NBS - National Bureau of Standards  
NEC - National Electric Code  
NEMA - National Electrical Manufacturer's Association  
OSHA - Occupational Safety and Health Administration  
SAE - Society of Automotive Engineers  
SSPC - Steel Structures Painting Council  
UL - Underwriters Laboratory  
USASI - United States of America Standards Institute  
WASHTO - Western Association of State Highway Transportation Officials

**101.03 ACTUAL COST.** The cost incurred by the Contractor in the performance of work. Actual cost includes labor, material, actual ownership cost of equipment determined from the owners records, or invoiced rental rates, and administrative overhead.

**101.04 ADDENDUM.** Contract revisions developed after advertisement and before opening proposals.

**101.05 ADDITIONAL WORK.** Additional work is an increase in the quantity of a contract item.

**101.06 ADVERTISEMENT.** The public announcement inviting proposals for the advertised work.

**101.07 AWARD.** The acceptance of a proposal by the Commission.

**101.08 BASE.** One or more layers of specified material placed on the subgrade to support the surface course.

**101.09 BIDDER.** Any individual or entity submitting a proposal for advertised work.

**101.10 BID DOCUMENTATION.** All writings, working papers, computer printouts, charts, and all other data compilation that contain or reflect information, data or calculations used by the Bidder to determine the bid proposal submitted, including but not limited to material relating to the determination and application of:

1. Equipment rates;
2. Overhead rates and related time schedules;
3. Labor rates;
4. Efficiency or productivity factors;
5. Arithmetic extensions;



6. Subcontractor and material supplier quotations;
7. Manuals standard to the industry used by the bidder in determining the proposal may be included by reference and will show the name and date of the publication and its publisher.

The term "Bid Documentation" does not include documents provided by the Department for use by the Bidder in the preparation of the bid proposal.

**101.11 BOARD OF CONTRACT APPEALS.** A board consisting of the Chief Engineer, the Operations Engineer, Chief Counsel and the Construction Engineer.

**101.12 BRIDGE.** A structure, including supports, erected over a depression or an obstruction, such as water, a highway, or a railway, and having a track or passageway for carrying traffic or other moving loads and a length measured along the center of roadway exceeding 20 feet (6.1 m) between under-copings of abutments or extreme ends of openings for multiple boxes.

The bridge length is the overall length measured along the line of survey stationing between backs of abutment backwalls or between ends of the bridge floor, but never less than the total clear opening of the structure.

The bridge roadway width is the clear width measured at right angles to the longitudinal centerline of the bridge between the bottom of curbs or guard timbers or, in the case of multiple heights of curbs, between the bottoms of the lower risers.

**101.13 CALENDAR DATE OF COMPLETION.** The fixed calendar date that all work on the project is to be complete.

**101.14 CALENDAR DAY.** Every day shown on the calendar beginning and ending at midnight.

**101.15 CHANGE ORDER.** A written order issued to the Contractor covering changes to the original Contract, and establishing the agreed-upon basis of payment and time adjustments for the work affected by the changes.

**101.16 CHIEF ENGINEER.** The Highways Engineering Division Administrator is designated "CHIEF ENGINEER" for the department who establishes engineering policy, resolves technical issues and resolves Contractor disputes.

**101.17 THE COMMISSION.** As provided by Section 2-15-2502 MCA, (as amended), the Transportation Commission is a quasi-judicial board assigned to the Department of Transportation for administrative support only.

**101.18 CONFORMITY.** Is compliance with:

- A. Reasonable and customary manufacturing and construction tolerances where working tolerances are not specified or,
- B. the specified working tolerances.

**101.19 CONTRACT.** The written agreement between the Commission and the Contractor detailing the obligations of the parties for the performance of the prescribed work.

The Contract includes the instruction to bidders; proposal; contract form; contract bond; specifications; general and detail plans; Detailed Drawings; Notice to Proceed; and all change orders, extra work orders, including authorized contract time extensions, that are required to complete the project.

**101.20 CONTRACT BOND.** The approved security on the Department's form, executed by the Contractor and its surety or sureties, guaranteeing the complete execution of the Contract and all supplemental agreements thereto and payment of all legal debts pertaining to the construction of the project.

**101.21 CONTRACT ITEM (Pay Item).** A specific unit of work for which a price is provided in the Contract.

**101.22 CONTRACT TIME.** The number of working days or the fixed calendar date allowed for completing the Contract, including authorized time extensions.

**101.23 CONTRACTOR.** The individual or legal entity contracting with the Commission to perform the prescribed work.

**101.24 CULVERT.** Any structure not classified as a bridge that provides an opening under the roadway.

**101.25 DELAY.** Any event, action, force, or factors that causes the contract work to extend beyond the specified Contract time.

- A. Compensable Delay.** An excusable delay for which the Contractor may be entitled to additional compensation.
- B. Excusable (noncompensable) Delay.** A delay to the contract or milestone/phase completion date that was beyond the Contractor's control and for which a contract or milestone time extension may be granted.
- C. Non-excusable Delay.** A reasonably foreseeable delay to the contract completion date within the Contractor's control. No monetary compensation or time extension will be granted.

**101.26 DEPARTMENT OF TRANSPORTATION.** The State of Montana, Department of Transportation, acting through the Director and the Commission when the State is the awarding authority. Where Department is used alone, it means the Montana Department of Transportation. The Department's mailing address is: Montana Department of Transportation, 2701 Prospect Avenue, P.O. Box 201001, Helena, MT 59620-1001.

**101.27 DETAILED DRAWINGS.** An edition of special drawings, including necessary detailed instructions, that pertain to certain items of work contained in Department projects.

**101.28 DIFFERING SITE CONDITIONS.** Subsurface or latent physical conditions at the site that:

## DEFINITIONS AND TERMS

101.40

- A. Differ materially from those indicated in the Contract; or
- B. Differ materially from conditions normally encountered or, those conditions generally recognized as inherent in the nature of the work required in the contract; or
- C. Unknown physical site conditions of an unusual nature. This does not refer to non-physical conditions (i.e., working relationships, etc).

**101.29 THE DIRECTOR.** The chief administrative officer of the Department, as established by law, and the Director's authorized agents.

**101.30 THE ENGINEER.** The District Engineer or District Administrator referred to as Engineer, acting directly or through an authorized representative (i.e., Project Manager), responsible for engineering and administrative supervision of the project.

**101.31 EQUIPMENT.** All machinery, tools, apparatus, and supplies necessary for the upkeep, maintenance, construction and completion of the project.

**101.32 EQUITABLE ADJUSTMENT.** An adjustment in the contract price or time.

**101.33 EXTRA WORK.** Work added to the original Contract required for the completion of the Contract.

**101.34 EXTRA WORK ORDER.** A written agreement amending the Contract that identifies work to be paid for at agreed prices or by force account under Subsection 109.04.

**101.35 FORCE ACCOUNT WORK.** A basis of payment to perform extra work when procedures of negotiation are unsuccessful. Force account work will be paid for under Subsection 109.04.2.

**101.36 HOLIDAYS.** Legal holidays are defined in the State of Montana laws (Section 1-1-216 MCA).

**101.37 INSPECTOR.** The Engineer's authorized representative assigned to make inspections of work and materials furnished.

**101.38 INVITATION FOR BIDS.** The advertisement for proposals for work or materials on which bids are requested. The advertisement goes out to interested parties to allow potential bidders an opportunity to examine the site, material sources, etc. It will indicate the estimated quantities and location of the work to be done or the character and quantity of the material to be furnished and the time and place of the opening of proposals.

**101.39 LABORATORY.** The Department testing laboratory or other testing laboratory designated by the Engineer.

**101.40 MAJOR ITEM.** Individual bid items having an original contract value equal to or exceeding 10 percent of the total original contract amount.

**101.41 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).** The F.H.W.A. "Manual on Uniform Traffic Control Devices" its current edition and its revisions. It includes the basic principles for the design and use of traffic control devices, but recognizes that engineering judgement is essential to the proper use of traffic control devices. The manual may be supplemented by Standard or Supplemental Specifications, Special Provisions, and by project circumstances when approved by the Engineer (See MUTCD, ¶2A-4).

**101.42 MATERIALS.** Substances specified for use in the construction of the project.

**101.43 MEDIAN.** The portion of a divided highway separating the traveled ways for traffic in opposite directions. Separation may be by open ground, raised median, or paint not including centerline stripping.

**101.44 NOTICE TO PROCEED.** Written notice to the Contractor to proceed with the contract work including the starting date of contract time.

**101.45 PAVEMENT STRUCTURE.** The combination of base course and surface course placed on a subgrade to support and distribute the traffic load to the roadbed.

**101.46 PLANS.** The approved contract drawings showing the location, type, dimensions, and details of the work required under the Contract.

**101.47 PROFILE GRADE.** The trace of a vertical plane intersecting the top surface of the proposed wearing surface, usually along the longitudinal centerline of the roadbed. Profile grade means either elevation or gradient of such trace according to the context.

**101.48 PROJECT.** The specific section of the highway or location on which construction is to be performed under the Contract.

**101.49 PROPOSAL.** A written offer by a bidder, on Department furnished forms, to perform the stated work at the quoted prices.

**101.50 PROPOSAL FORM.** The approved form on which bids must be prepared and submitted.

**101.51 PROPOSAL GUARANTY.** The security furnished with a proposal to guarantee that the bidder enters into the Contract if its proposal is accepted.

**101.52 QUALITY CONTROL DEFINITIONS.**

- A. Random Sampling - A selection procedure in which all potential samples have an equal chance of being selected for testing.
- B. Lot - A discrete quantity of material evaluated for acceptance.

- C. **Quality Control Plan** - A detailed description of the type and frequency of inspection, sampling, and testing determined necessary to measure and control the various properties governed by Department specifications.
- D. **Acceptance Plan** - A statistically based procedure for evaluating acceptance test results.
- E. **Price Reduction** - A pre-established decrease in payment to the Contractor for a contract bid item in which the quality and workmanship, determined by statistical means, of a lot does not meet specifications.
- F. **Quality Incentive Allowance** - A pre-established price increase in payment to the Contractor for a contract bid item in which a superior level of quality and workmanship, determined statistically, was performed.

**101.53 RENTAL RATES.** Hourly rates approved by the Department for furnishing and operating various types of construction equipment.

**101.54 RESOURCES.** The labor, equipment, and material necessary to perform work on a contract bid item or other element of work.

**101.55 RESPONSIVE BID.** A bid that meets all requirements of the Proposal and Instructions to Bidders.

**101.56 RESPONSIBLE BIDDER.** A bidder that the Department determines has the skill, ability and integrity to perform the project.

**101.57 RIGHT-OF-WAY.** Land, property, or interest, acquired for or devoted to a highway.

**101.58 ROAD, HIGHWAY OR STREET.** A public way for vehicular travel, including the entire area within the right-of-way.

**101.59 ROADBED.** The graded portion of a highway within the top and side slopes prepared as a foundation for the pavement structure and shoulders.

**101.60 ROADSIDE.** The areas between the outside edges of the shoulders and the right-of-way boundaries and other areas within the right of way not intended for motorized travel.

**101.61 ROADSIDE DEVELOPMENT.** Those items necessary for:

- A. The preservation of landscape materials and features;
- B. The rehabilitation and protection against erosion of areas disturbed by construction through seeding, sodding, mulching, and the placing of other ground covers; and suitable plantings; and
- C. Other improvements that increase the effectiveness and enhance the appearance of the highway.

**101.62 ROADWAY.** The portion of a highway within the limits of construction.

**101.63 SHOULDER.** The portion of the roadway adjacent to the traveled way for accommodation of stopped vehicles for emergency use and for lateral support of base and surface courses.

**101.64 SIDEWALK.** That portion of the right of way constructed for pedestrian use.

**101.65 SPECIAL PROVISIONS.** Modifications to the Standard and Supplemental Specifications applicable to an individual project.

**101.66 SPECIFICATIONS.** The compilation of provisions in this book; the Supplemental Specifications and Special Provisions for the performance of the project.

**101.67 STATE.** The State of Montana acting through its authorized representative.

**101.68 STRUCTURES.** Bridges, culverts, catch basins, drop inlets, retaining walls, cribbing, manholes, endwalls, buildings, sewers, service pipes, underdrains, foundation drains, and other features that may be encountered in the work.

**101.69 SUBCONTRACTOR.** An individual or legal entity to which a Contractor sublets part of the work.

**101.70 SUBGRADE.** The top surface of a roadbed upon which the pavement structure, shoulders, and curbs are constructed.

**101.71 SUBSTRUCTURE.** All of the structure below the bearings of simple and continuous spans, skewbacks of arches, and tops of footings of rigid frames, together with the backwalls, wingwalls, and wing protection railings.

**101.72 SUPERINTENDENT.** The Contractor's authorized representative in responsible charge of the work.

**101.73 SUPERSTRUCTURE.** The entire structure except the substructure as defined in Subsection 101.71.

**101.74 SUPPLEMENTAL SPECIFICATIONS.** Approved additions and revisions to the standard specifications.

**101.75 SURETY.** The legal entity or individual, other than the Contractor, executing a bond furnished by the Contractor (see §28-11-401, MCA).

**101.76 SURFACE COURSE.** One or more layers of a pavement structure designed to accommodate the traffic load, the top layer of which resists skidding, traffic abrasion, and the disintegrating effects of climate. The top layer is sometimes called the "wearing course."

**101.77 TITLES (OR HEADINGS).** The titles or headings of the divisions, sections, and subsections are for convenience of reference and do not have any bearing on their interpretation.

**101.78 TOPSOIL.** Topsoil under Section 203 is soil that supports normal plant growth.

Topsoil under Section 610 is soil that supports normal plant growth and meets Subsection 713.05 requirements.

**101.79 TRAVELED WAY OR PRESENT TRAVELED WAY.** The existing paved or graveled roadway section in use including the shoulders and auxiliary lanes.

**101.80 UNBALANCED BIDS.**

- A. Materially Unbalanced.** A bid that generates a reasonable doubt that award to the bidder submitting a mathematically unbalanced bid will result in the lowest ultimate cost to the Department.
- B. Mathematically Unbalanced.** A bid containing lump sum or unit bid items that do not reflect reasonable actual costs plus a reasonable proportionate share of the bidder's anticipated profit, overhead costs, and other indirect costs.

**101.81 WORK.** The furnishing of all resources necessary to complete the project.

**101.82 WORKING DAY.** All days are considered working days except Saturdays, Sundays, holidays, days on which the Contractor is specifically required by the Contract to suspend construction operations, and all days during the period of November 16 through April 15.

**101.83 WORKING DRAWINGS.** Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or other supplementary plans or similar data that the Contractor is required to submit to the Project Manager.